EPA Region 7 TMDL Review

TMDL ID	231	*Water Body ID*	MT1-L0100
Water Body Name	Standing Bear Lake		
Pollutant	Siltation/Sedimentation		
Tributary	Unnamed Tributaries to Big Papillion		
State	NE *HUC*	10230006	
Basin	Missouri Tributaries		
Submittal Date	06/30/2003		
Approved	yes		

Submittal Letter

State submittal letter indicates final TMDL(s) for specific pollutant(s)/ water(s) were adopted by the state, and submitted to EPA for approval under section 303(d) of the Clean Water Act.

Letter and package dated 6/26/2003 received 6/30/2003.

Water Quality Standards Attainment

The water body's loading capacity for the applicable pollutant is identified and the rationale for the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources is described. TMDL and associated allocations are set at levels adequate to result in attainment of applicable water quality standards.

Nebraska's Aquatic Life-Warmwater Class A and Aesthetics beneficial uses are identified as not attained due to excessive sedimentation. Nebraska does not have numeric criteria for sediment or total suspended solids but NDEQ has adopted methods to evaluate the severity of sedimentation in reservoirs using volume loss as an indicator. Beneficial uses are considered to be in attainment when the amount of annual volume loss/sedimentation in a lake or reservoir is less than 0.5%. The loading capacity is identified as10,000 tons/year. Construction of two sedimentation basins and changes in land use are believed to have reduced the overall loading to the lake to 4,544 tons per year which is below the load capacity. Further bathymetric surveys will confirm that the associated volume loss indicates water quality standards (WQS) attainment.

Numeric Target(s)

Submittal describes applicable water quality standards, including beneficial uses, applicable numeric and/or narrative criteria. If the TMDL is based on a target other than a numeric water quality criterion, then a numeric expression, site specific if possible, was developed from a narrative criterion and a description of the process used to derive the target is included in the submittal.

All beneficial uses are described as well as the applicable narrative criteria. The TMDL is based on narrative criteria translated to a numeric water quality target. Annual volume loss targets in comparison with current sediment load estimates allowed for the determination of the desired endpoint and the associated degree of sediment load reduction needed to attain beneficial uses. The lake's current sediment load and loading capacity was determined through the use of bathymetric survey data.

Link Between Numeric Target(s) and Pollutant(s) of concern

An explanation and analytical basis for expressing the TMDL through surrogate measures (e.g., parameters such as percent fines and turbidity for sediment impairments, or chlorophyll-a and phosphorus loadings for excess algae) is provided, if applicable. For each identified pollutant, the submittal describes analytical basis for conclusions, allocations and margin of safety that do not exceed the load capacity.

The lake was identified on the 2002 303(d) list as impaired because of the severity of the sedimentation rate occurring in the lake's multi-purpose pool. Therefore, the targeted endpoint is translated as the amount of sediment the lake can receive on an annual basis and still meet an average annual multi-purpose pool loading rate of <0.5%. Recent construction of sedimentation basins and changes in land use suggest that the goal may be obtained.

Source Analysis

Important assumptions made in developing the TMDL, such as assumed distribution of land use in the watershed, population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources, are described. Point, non point and background sources of pollutants of concern are described, including magnitude and location of the sources. Submittal demonstrates all significant sources have been considered.

There are no NPDES facilities currently in the watershed. Nonpoint sources include sheet and rill erosion, overland runoff from agricultural land, construction.development areas, and streambank/gully erosion.

Allocation

Submittal identifies appropriate wasteload allocations for point, and load allocations for nonpoint sources. If no point sources are present the wasteload allocation is zero. If no nonpoint sources are present, the load allocation is zero.

Allocation is set at net lake loading of 10,000 tons per year.

WLA Comment

The WLA is zero.

LA Comment

The LA is set at the estimated existing load of 4,544 tons per year.

Margin of Safety

Submittal describes explicit and/or implicit margin of safety for each pollutant. If the MOS is implicit, the conservative assumptions in the analysis for the MOS are described. If the MOS is explicit, the loadings set aside for the MOS are identified and a rationale for selecting the value for the MOS is provided.

The MOS is explicit at 5,456 tons per year.

Seasonal Variation and Critical Conditions

Submittal describes the method for accounting for seasonal variation and critical conditions in the TMDL(s).

There are no specific critical conditions associated with this TMDL because once sediment settles in the lake, it is assumed to have an infinite residence time and is present on a year round basis.

Public Participation

Submital describes public notice and public comment opportunity, and explains how the public comments were considered in the final TMDL(s).

The draft TMDL was announced through a public notice in the Lincoln Journal Star Newspaper and the Omaha World Hearld with just over a 30-day comment period provided. The TMDL was also made available on the NDEQ website and announcement letters were mailed to identified stakeholders. Response to public comment were provide to EPA.

Monitoring Plan for TMDL(s) Under Phased Approach

The TMDL identifies the monitoring plan that describes the additional data to be collected to determine if the load reductions required by the TMDL lead to attainment of WQS, and a schedule for considering revisions to the TMDL(s) (where phased approach is used).

The USACE has agreed to conduct monthly monitoring throughout the growing season and forward the results to NDEQ for assessment. The USACE will also conduct periodic bathymetric surveys. NDEQ may also periodically conduct monitoring to evaluate the effectiveness of BMPs.

Reasonable assurance

Reasonable assurance only applies when reduction in nonpoint source loading is required to meet the prescribed waste load allocations.

Not applicable because there are no NPDES facilities.